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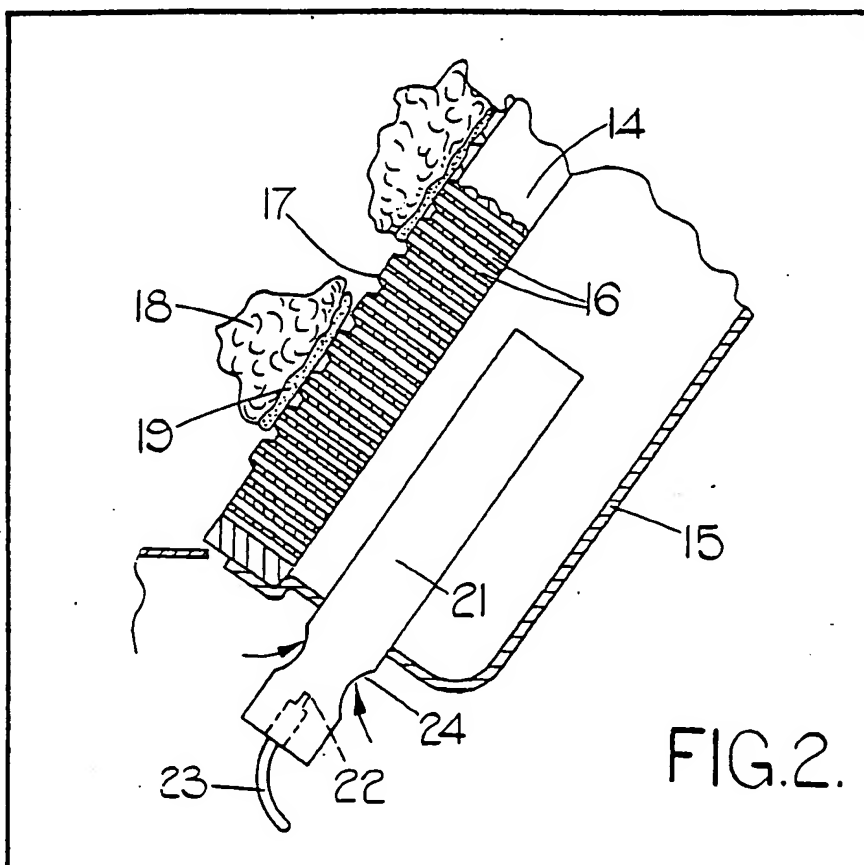
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(54) Gas Fire Elements

(57) A method of producing solid fuel effect elements of the plaque type for use principally in liquid petroleum gas

appliances comprises applying to a preformed flat perforated plaque 14, a plurality of irregularly shaped solid fuel effect members 18 secured to the front face of the plaque 14 by an adhesive 19.



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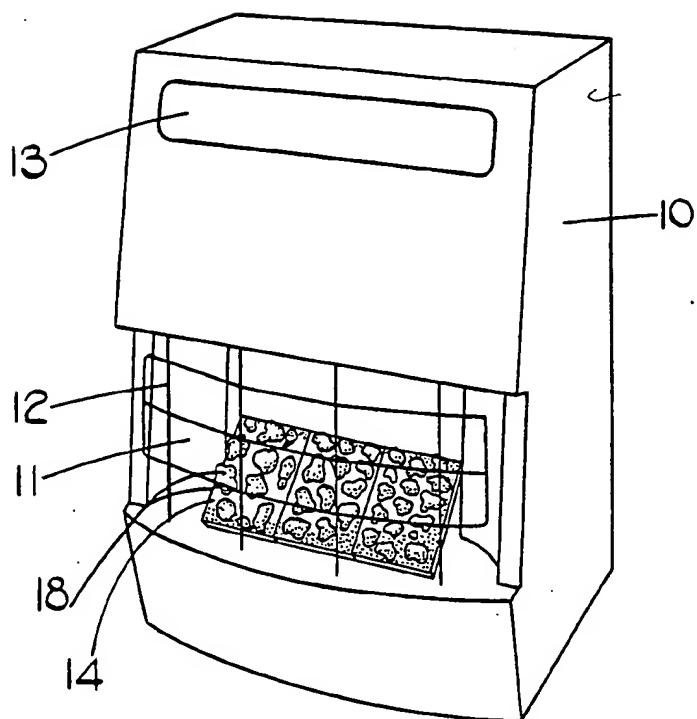


FIG. 1.

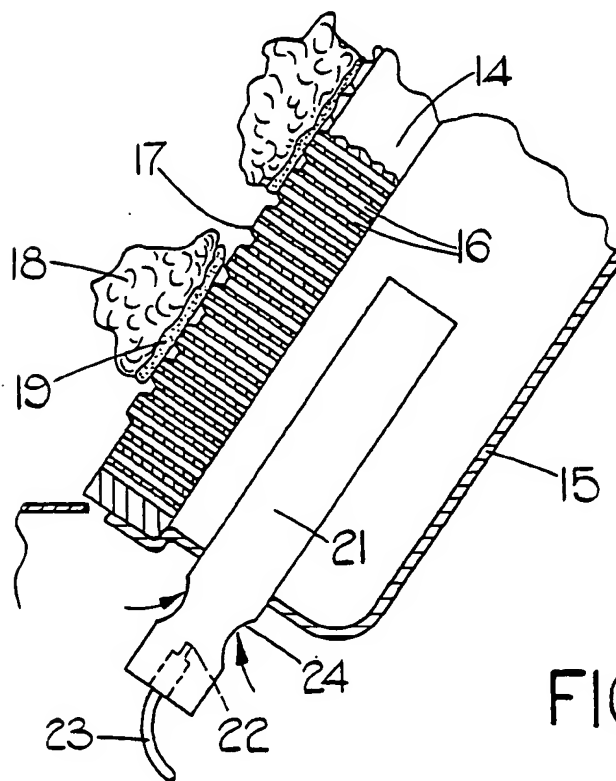


FIG. 2.

SPECIFICATION

Gas Fire Elements

This invention relates to radiant heating elements for gas fires. In particular, but not essentially the invention is concerned with such elements for use in liquid petroleum gas heater appliances.

Liquid petroleum gas is usually stored in a bottle, the gas being supplied under pressure, to perforated ceramic elements, the elements being heated by burning of the gas at the front surfaces of the elements, at a temperature at which they will radiate a significant amount of the heat produced, this being usually a temperature at which the elements will glow red. This is generally described as a surface combustion burner.

The element is called a plaque type element. This comprises a generally flat ceramic member, which in the conventional arrangement, is closely perforated substantially over all of its surface.

It has become common to produce, on a gas heater, the appearance of solid fuel. This has been accomplished, in one example, on a plaque type heater element by moulding protrusions on the front of the plaque during its manufacture. In this example the whole plaque with the protrusions is produced by a vacuum forming process from powdered ceramic material. After forming, some colour is added, particularly to the protrusions, to give a realistic solid fuel like appearance.

This process tends to be relatively expensive and has some disadvantages in terms of visual effect and also combustion.

The object of the invention is to provide a radiant heating element of the plaque type in which a solid fuel effect is produced with minimum reduction in efficiency.

According to the invention, there is provided a radiant heating element of the plaque type comprising a preformed flat plaque to which are applied irregularly shaped solid fuel effect members secured by adhesion to the front face of the plaque.

According to a further aspect, the invention relates to a method of producing radiant heating elements of the plaque type comprising the steps of forming a flat perforated plaque and then applying irregularly shaped solid fuel effect members to the front surface thereof by adhesion.

There may thus be produced a plaque type element which affords a solid fuel like appearance, particularly if some colouring is also added to the solid fuel effect members.

The invention will now be described, by way of example, with reference to the accompanying drawings, in which:—

Figure 1 is a perspective view of a liquid petroleum gas heating appliance incorporating heating elements constructed in accordance with the invention, and

Figure 2 is a fragmentary cross-sectional view through one of the elements, and parts of the associated assembly of the appliance.

Figure 1 illustrates a liquid petroleum gas

heating appliance comprising a casing 10 within which is housed a storage container (not illustrated) for low pressure gas. At the front of the casing is a recessed region lined in part with reflector plates 11 and having a protective grid 12 in front of it. At the top of the casing is a hot air outlet opening 13.

The form of the casing and the disposition of the parts thereof does not however form any part of this invention and the construction shown is merely exemplary.

Within the recessed zone behind the grid 12 are three rectangular radiant heating elements 14, one of which is shown partly in cross-section in Figure 2. These are inclined at an angle of approximately 45° to the horizontal. Each such radiant heating element 14 is of the surface combustion plaque type having a plurality of closely spaced perforations 16 disposed in regular rows. The front face of the element has raised projections 17 through which pairs of the holes extend respectively. Secured to the front faces of the elements 14 are solid fuel effect members 18. These are irregularly shaped lumps of fibers or other ceramic material formed to represent lumps of coke or other solid fuel. These are distributed in an irregular arrangement over the surfaces of the elements. They may be coloured by heat resistant inks or dyes.

They are secured to the plaque type elements 14 by heat resistant adhesive indicated at 19.

The elements are mounted in a support body 15 forming a chamber into which gas is delivered through one or more nozzles 21, in which are jets 22 connected to a supply pipe 23. Combustion air enters through part 24. Combustion takes place on the front surface of the elements 14, which are, by this means heated to a temperature at which they will glow red, thus radiating a significant quantity of the heat produced.

The solid fuel effect members 18, which are of a colour to represent unburned or partly burned solid fuel, while also being heated, do not reach a temperature at which they will glow red. The appearance is therefore provided of solid fuel on a glowing base, which provides a realistic solid fuel fire appearance.

In an alternative construction, the solid fuel effect members are in the form of areas of suitably coloured adhesive applied to the front of the plaque type element without the addition of the shaped elements 18 shown in the drawings. The adhesive may be a cement or a glazed vitreous mixture of suitable colouring.

By means of the arrangement described, standard plaque type elements may be used inexpensively to produce the appearance of a solid fuel fire on a gas fired appliance. Mains gas may be used in place of liquid petroleum gas.

Claims

1. A radiant heating element of the plaque type comprising a preformed flat plaque to which are applied irregularly shaped solid fuel effect

members secured by adhesion to the front face of the plaque.

2. A radiant heating element as claimed in claim 1 in which the solid fuel effect members are
5 separate pieces of irregular shape, each being secured to the front face by means of an adhesive.

3. A radiant heating element as claimed in claim 1 in which the solid fuel effect members are made from an adhesive material which adheres to
10 the front face of the plaque.

4. A method of producing radiant heating elements of the plaque type comprising the steps of forming a flat perforated plaque and then applying irregularly shaped solid fuel effect
15 members to the front surface thereof by adhesion.

5. A method as claimed in claim 4 in which the solid fuel effect members are separately formed and are applied to the front face of the plaque by means of an adhesive.

20 6. A method as claimed in claim 4 in which the solid fuel effect members are formed from adhesive material which adheres to the front face of the plaque.

25 7. A radiant heating element substantially as hereinbefore described with reference to and as shown in the accompanying drawings.

8. A method of producing radiant heating elements substantially as hereinbefore described with reference to and as shown in the
30 accompanying drawings.

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